

**REMARKS**

This paper is filed in response to the Office Action mailed October 11, 2006.

Following the amendments above, claims 12-15, 17-23, 25, 27-29, 33, 34, 36-40, 42-43, 58-70, 72-76, 78-82, 92-96, and 98-119 are pending. Claims 2, 12, 13, 17-21, 36-40, 49, 51, 52, and 75 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,299,810 to Pierce et al (hereinafter referred to as "Pierce"). Claim 27 is rejected under 35 U.S.C. § 102(b) as being anticipated by an article entitled "Tele-Virtual Reality of Dynamic Mechanical Model" authored by Yamakita, and published in the Proceedings of the 1992 IEEE.RSJ International Conference on Intelligent Robots and Systems (hereinafter referred to as "Yamakita"). Claim 22 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Pierce in view of the knowledge of one of ordinary skill in the art. Claims 3-5, 7, 11, 23, 28, 29, 31, 41-48, 53-56, 58-70, 72-74, 76, and 78-82 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Pierce in view of Yamakita. Claims 6, 8, 14-15, 25, 33-34, and 89 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Pierce in view of an article entitled "A Low-Cost Force Feedback Joystick and its Use in PC Video Games" authored by Ming Ouhyoung et al, and published in the IEEE Transactions on Consumer Electronics, Vol. 41, No. 3, Aug. 1995 (hereinafter referred to as "Ouhyoung") and an article entitled "MagicMouse: Tactile and Kinesthetic Feedback in the Human-Computer Interface using an Electromagnetically Actuated Input/Output Device" authored by Kelley et al (hereinafter referred to as "Kelley"). Claims 84-88, 90, and 92-96, and 98-101 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Pierce and Yamakita, and further in view of Ouhyoung and Kelley.

Applicant has amended claims 12, 17, 21, 27, 29, 36, 37, 38, 40, 42, 43, 58, 74, 75, 79, 98 and 101; cancelled claims 2, 5-8, 44-49, 51-56, and 84-90; and added new claims 102-119. No new matter is added by these amendments, and support for the amendments may be found in the specification and claims as originally filed.

Reconsideration and allowance of all claims are respectfully requested in view of the amendments above and the remarks below.

Claims 2, 5-8, 44-49, 51-56, and 84-90

Applicant has canceled claims 2, 5-8, 44-49, 51-56, and 84-90, and therefore the rejection of those claims is rendered moot. Applicant respectfully requests the Examiner withdraw the rejection of those claims.

Claims 2, 12, 13, 17-21, 36-40, 49, 51, 52, 75 - § 102(b) - Pierce

Applicant respectfully traverses the rejection of claims 12 and 13 under 35 U.S.C. § 102(b) as being anticipated by Pierce.

To anticipate a claim under 35 U.S.C. § 102(b), a reference must disclose each and every element of the claim. *See* M.P.E.P. § 2131.

Applicant has canceled claims 2, 49, 51, and 52, and therefore the rejection of those claims is rendered moot. Applicant respectfully requests the Examiner withdraw the rejection of those claims.

Because Pierce does not disclose the “network means” as recited in claim 12 and described in the specification of the current application, Pierce does not anticipate claim 12. The network means described in the current application generally encompasses client computers interconnected via local area networks (LANs) or wide area networks (WANs) and communicating through communications protocols such as TCP/IP. *See* Specification, page 1, line 25 - page 2, line 29; and page 7 line 4 - page 8 line 34.

More specifically, the current application notes that “the present invention can also be used in conjunction with many different types of networks (any LAN or WAN) using appropriate communication protocols.” *See* Specification, page 7, lines 7-9. With regard to the Internet as a network means, the current application describes the Internet as including “a number of nodes 20 that are interconnected by data transmission media 22. These nodes are typically routers, switches, and other intelligent data transmission apparatus which route “packets” of TCP/IP information to the desired destination.” *See* Specification, page 7, lines 17-20.

Networks, for example networks using the TCP protocol, have been known since at least TCP was described in an RFC in September of 1981. However, Pierce does not disclose a

network, or the network means as described in the present application. In fact, Pierce's only mention of "network" is in the title of the patent.

On the contrary, Pierce discloses computers "linked through a common RAM," or shared memory. *See* Pierce, Abstract. Each computer is "electrically connected" to the common RAM. *See* Pierce, Column 2, lines 65-68. There are several distinctions between the linked computers of Pierce and the network means described in the present invention. First, Pierce does not disclose the computers communicating via telecommunications protocols, such as TCP/IP. Further, Pierce does not disclose client computers interconnected by routers, switches, and other intelligent data transmission apparatus which route packets of information. Also, a computer would not communicate with shared RAM via telecommunications protocols over routers, switches, and other intelligent data transmission apparatus.

As a further distinction, Pierce describes a "preferred embodiment" as a vehicle simulator with first and second tandem surfaces for each user of the simulator. *See* Pierce, figure 1, and column 4, lines 18-21, 36-44. These first and second tandem surfaces for each user are connected to a single platform. *See* Pierce, figure 1, and column 4, lines 36-44. On the same single platform, each computer is mounted. *See* Pierce, column 5, lines 61-64. As such, Pierce discloses two computers in close proximity, with a direct, electrical connection to a shared hardware resource, the common RAM. In contrast, the present invention contemplates two computers communicating over a local or wide area network, not via a shared hardware resource. Thus, Pierce does not disclose the "network means" recited in claim 12 and further described in the specification.

Because claim 13 depends from and further limits claim 12, claim 13 is not anticipated by Pierce for at least the same reason as claim 12. Therefore, Applicant respectfully requests the Examiner withdraw the rejection of claims 12 and 13.

Applicant respectfully traverses the rejection of claims 17-21, 36-40, and 75 under 35 U.S.C. § 102(b) as being anticipated by Pierce.

Because Pierce does not disclose "receiving a first computer information from a first computer at a network interface of a second computer over a network" as recited in claims 17, 38, and 75, Pierce does not anticipate claims 17, 38, and 75. As discussed above, Pierce discloses a system wherein information is retrieved from a shared memory, not sent from a

network interface over a network. As such, Pierce does not disclose each and every element of claim 17, 38, and 75. Applicant respectfully requests the Examiner withdraw the rejections of claim 17.

Because claims 18-21, 36-37 and 39-40 depend from and further limit claims 17 and 38, claims 18-21, 36-37, and 39-40 are not anticipated by Pierce for at least the same reason as claims 17 and 38. Therefore, Applicant respectfully requests the Examiner withdraw the rejection of claims 17-21, 36-40, and 75.

Claim 27 – § 102(b) – Yamakita

Applicant respectfully traverses the rejection of claim 27 under 35 U.S.C. § 102(b) as being anticipated by Yamakita.

To anticipate a claim under 35 U.S.C. § 102(b), a reference must disclose each and every element of the claim. *See* M.P.E.P. § 2131.

Because Yamakita does not disclose “enabling a first information comprising an indication of movement of a first manipulandum coupled to a first computer and first feel sensation information indicating a type of force sensation to be output by a network interface” as recited in amended claim 27, Yamakita does not anticipate claim 27. As shown in Fig. 2a and Fig. 2b of Yamakita, Yamakita discloses a velocity of a master arm to be communicated to a model device, upon which a velocity of a slave arm is then communicated to a slave device. The velocity information communicated between the devices in Yamikita does not encompass “an indication of movement and first feel sensation information indicating a type of force sensation,” as recited in claim 27. Thus, Yamakita does not disclose “enabling a first information comprising an indication of movement of a first manipulandum coupled to a first computer and first feel sensation information indicating a type of force sensation to be output by a network interface” as recited in claim 27. Applicant respectfully requests the Examiner withdraw the rejection of claim 27.

Claim 22 – § 103(a) – Pierce

Applicant respectfully traverses the rejection of claim 22 under 35 U.S.C. § 103(a) as being unpatentable over Pierce.

To sustain a rejection of a claim under 35 U.S.C. § 103(a), the combined references must teach or suggest each and every element of the claim. *See* M.P.E.P. § 2142.

As discussed above, Pierce does not teach “receiving a first computer information from a first computer at a network interface of a second computer over a network” as recited in claim 17, the claim from which claim 22 depends. The Examiner noted that one of ordinary skill in the art would know that paddles could be a graphical object. However, assuming one of ordinary skill in the art would possess such knowledge, this knowledge does not teach or suggest “receiving a first computer information from a first computer at a network interface of a second computer over a network.” Thus, the combination of Pierce and the asserted knowledge of one of ordinary skill in the art do not render claim 22 obvious. Applicant respectfully requests the Examiner withdraw the rejection of claim 22.

Claims 3-5, 7, 11, 23, 28, 29, 31, 41-48, 53-56, 58-70, 72-74, 76, 78-82 – § 103(a) – Pierce in view of Yamakita

Applicant respectfully traverses the rejection of claims 23, 28, 29, 31, 42-43, 58-70, 72-74, 76, and 78-82 under 35 U.S.C. § 103(a) as being unpatentable over Pierce in view of Yamakita.

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the combined reference must teach or suggest each and every element of the claimed invention. *See* M.P.E.P. § 2143.03. Further, “[i]f [a] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” MPEP 2143.01 (citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)).

Applicant has canceled claims 3-5, 11, 44-48, and 53-56 and therefore the rejection of those claims is rendered moot. Applicant respectfully requests the Examiner withdraw the rejection of those claims.

Because one of ordinary skill in the art would not be motivated to modify Pierce to incorporate the device of Yamakita, claims 17, 27, 38, 58, and 75, from which claims 23, 28, 29, 31, 42-43, 59-70, 72-74, 76, and 78-82 depend, are patentable over Yamakita. As noted above, Pierce does not teach or suggest “receiving a first computer information from a first computer at a network interface of a second computer over a network” as recited in claims 17, 27, 38, 58, and 75. Yamakita, however, suggests communication via a network interface over a network.

Modifying the Pierce device to include a network interface fundamentally alters the mode of operation of the Pierce device. The invention of Pierce is located in one distinct physical location. More specifically, users of the Pierce device, and the device itself, including the first and second computers and the common ram, are all enclosed in the same device at one distinct physical location. *See* Pierce, figure 1. There is no suggestion, motivation, or teaching in Pierce to allow users to interact over any distance beyond the limitations of direct electrical communication, which is required by the invention of Pierce. *See* Pierce, column 2, lines 65-68.

On the other hand, the present invention is directed towards communication across local and wide-area networks. Client computers on local and wide-area networks communicate via telecommunications protocols and computer networking devices, rather than through a direct electrical connection, as the computers in Pierce communicate.

Furthermore, physically separating the users and the computers of Pierce would eliminate some of the inherent features of an arcade-style device which Pierce is directed towards. For instance, the device of Pierce is specifically directed towards users operating the vehicle simulator in tandem positions. Features and advantages to the Pierce device may be specific to the device’s central singular location.

Modifying the Pierce device to communicate via telecommunications protocols via a network interface over a network such as a local area network or a wide area network would fundamentally alter the mode of operation of the device, and thus, one of ordinary skill in the art would not be motivated to modify the Pierce device to receive information at a network

interface. Therefore, claims 17, 27, 38, 58, and 75 are patentable over the combination of Pierce and Yamakita.

Because claims 23, 28, 29, 31, 42-43, 59-70, 72-74, 76, and 78-82 depend from and further limit claims 17, 27, 38, 58, and 75, claims 23, 28, 29, 31, 42-43, 59-70, 72-74, 76, and 78-8 are patentable over the combination of Pierce in view of Yamakita for at least the same reason as claims 17, 27, 38, 58, and 75. Therefore, Applicant respectfully requests the Examiner withdraw the rejection of claims 23, 28, 29, 31, 42-43, 58-70, 72-74, 76, and 78-82.

Claims 6, 8, 14-15, 25, 33-34, and 89 – § 103(a) Pierce in view of Ouhyoung and Kelley

Applicant respectfully traverses the rejection of claims 14-15, 25, and 33-34 under 35 U.S.C. § 103(a) as being unpatentable over Pierce in view of Ouhyoung and Kelley.

To sustain a rejection of a claim under 35 U.S.C. § 103(a), the combined references must teach or suggest each and every element of the claim. *See* M.P.E.P. § 2142.

Applicant has canceled claims 6, 8, and 89 and therefore the rejection of those claims is rendered moot. Applicant respectfully requests the Examiner withdraw the rejection of those claims.

Because Pierce in view of Ouhyoung and Kelley does not teach or suggest the “network means” as recited in claim 12, from which claims 14 and 15 depend, or the “network interface coupled to said computer network” as recited in claim 17 and 27, claims 14-15, 25, and 33-34 are patentable over Pierce in view of Ouhyoung and Kelley. As discussed above, Pierce does not disclose the “network means” as recited in claim 12 and described in the specification. Ouhyoung and Kelley do not cure this deficiency. Neither Ouhyoung nor Kelley teach or suggest two computers coupled to a network “using appropriate communications protocols,” as recited in page 7 of the Specification. Thus, the combination of Pierce, Ouhyoung, and Kelley do not teach or suggest the “network means” of the present invention. Therefore, claims 14 and 15 are patentable over the combined references. Applicant respectfully requests the Examiner withdraw the rejection of claims 14 and 15.

Claims 84-88, 90, 92-96 and 98-101 – § 103(a) – Pierce in view of Yamakita, Ouhyoung, and  
Kelley

Applicant respectfully traverses the rejection of claims 92-96 and 98-101 under 35 U.S.C. § 103(a) as being unpatentable over Pierce in view of Yamakita, Ouhyoung, and Kelley.

To establish a prima facie case of obviousness under 35 U.S.C. § 103(a), the combined reference must teach or suggest each and every element of the claimed invention. *See* M.P.E.P. § 2143.03. Further, "[i]f [a] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP 2143.01 (citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)).

Applicant has canceled claims 84-88 and 90 and therefore the rejection of those claims is rendered moot. Applicant respectfully requests the Examiner withdraw the rejection of those claims.

As noted above, Pierce, Ouhyoung and Kelley do not teach or suggest "a second computer with a second network interface in communication with said first network interface of said first computer via over the Internet" as recited in claim 101, from which claims 92-96 and 98-100 depend. Yamakita, however, suggests a network interface. As discussed above, however, combining the network interface of Yamakita with Pierce would fundamentally alter the invention of Pierce. For the same reasons as above, claim 101 is patentable over the combination of Pierce in view of Yamakita, Ouhyoung, and Kelley

Because claims 92-96 and 98-100 depend from and further limit claim 101, claims 92-96 and 98-100 are patentable over the combination of Pierce in view of Yamakita, Ouhyoung, and Kelley for at least the same reason as claim 101. Therefore, Applicant respectfully requests the Examiner withdraw the rejection of claims 92-96 and 98-101.

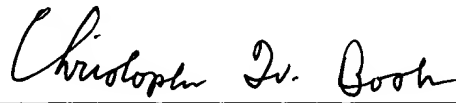


**CONCLUSION**

Applicant respectfully asserts that in view of the amendments and remarks above, all pending claims are allowable and Applicant respectfully requests the allowance of all claims.

Should the Examiner have any comments, questions, or suggestions of a nature necessary to expedite the prosecution of the application, or to place the case in condition for allowance, the Examiner is courteously requested to telephone the undersigned at the number listed below.

Respectfully submitted,

A handwritten signature in cursive script, reading "Christopher W. Bosken", written in dark ink. The signature is positioned above a horizontal line.

Christopher W. Bosken  
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